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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/806,819	IMAZEKI, HAJIME	
	Examiner	Art Unit	
	WANDA Z. RUSSELL	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 January 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. **Claims 1-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Zelig et al. (Pub No. US 2003/0012188 A1), in view of Kibe (Pub No. US 2001/0008536).

For **claim 8**, Zelig et al. substantially teach a transmission state indicating apparatus for a predetermined transmission system (SONET, [0025], line 3), in which high capacity data is divided into a plurality of low capacity virtual containers ([0027], last 3 lines, and [0025]. For VT, see [0005], line 6. VT is the virtual container as claimed) and transmitted via a plurality of channels (26-24 –Fig. 1, and circuit, [0050], line 1 & lines 1-end) which configure a communication network based on clocks ([0069], line 6 & lines 4-6) at the respective channels, the apparatus comprising:

a multiplexed frame acquiring unit (24-Fig. 1, and [0064], lines 4-8) which acquires a multiplexed frame in which mapping, accompanying delay absorption processings ([0069], line 3) corresponding to transmission states at the respective channels (26-24 -Fig. 1, and [0080], lines 1-7), has been carried out based on a reference clock ([0034], line 8) with respect to the virtual containers at the respective

channels included in a plurality of frames including said plurality of low capacity virtual containers ([0050] and [0069]);

a pointer value detecting unit (adjust ... pointers, [0080], line 6. It implies that there is a pointer value detecting unit) which successively detects factors at the respective channels (26-24 -Fig. 1, and [0080], lines 1-7) which are respectively included in the plurality of channels included in the multiplexed frame acquired by the multiplexed frame acquiring unit, and which are to be objects for delay absorption processings corresponding to the transmission states at the respective channels, as a plurality of pointer values for respectively evaluating the transmission states at the plurality of channels which configure the communication network, and which successively corrects the plurality of pointer values based on variations in phases ([0080], line 11 & lines 7-15) at the respective channels to be detected from phase differences between the clocks at the respective channels and the reference clock ([0080]); and

a display unit (CEM header, [0079], line 10) which indicates the plurality of pointer values successively detected and corrected by the pointer value detecting unit, at the same time, corresponding to the plurality of channels ([0079], lines 9-11).

However, Zelig et al. fail to specifically teach more accurately a pointer value detecting unit and a display unit.

Kibe teaches a pointer value detecting unit (21-Fig. 1) and a display unit (26-Fig. 1).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Zelig et al. with Kibe to obtain the invention as specified, for the adjustment of channel pointer value due to phase shifting between information to be multiplexed and frame to be inserted.

For **claim 9**, Zelig et al. and Kibe teach everything claimed as applied above (see claim 8). In addition, Zelig et al. teach the transmission state indicating apparatus according to claim 8, further comprising:

a storage unit (the "adjust the VT sections pointers" in [0080], line 6, implies that there is a storage unit for the pointers) which stores said plurality of pointer values successively detected and corrected by the pointer value detecting unit in association with information for indicating the plurality of pointer values at the same time in accordance with the plurality of channels ([0080], lines 1-7); and

a control unit (the "adjust the VT sections pointers" in [0080], line 6, implies that there is a control unit for the pointers) which reads said plurality of pointer values stored in association with the information for indicating said plurality of pointer values corresponding to the plurality of channels at the storage unit, at the same time ([0080], lines 1-7).

However, Zelig et al. fail to specifically teach more accurately a pointer control unit and a storage unit.

Kibe teaches a pointer pointer control unit (30-Fig. 1) and a storage unit (34-Fig. 2, and [0051]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Zelig et al. with Kibe to obtain the invention as specified, for the adjustment of channel pointer value due to phase shifting between information to be multiplexed and frame to be inserted, with full control and storage functions).

For **claim 10**, Zelig et al. and Kibe teach everything claimed as applied above (see claim 8). In addition, Zelig et al. teach the transmission state indicating apparatus according to claim 8, further comprising:

a control unit which carries out processing for indicating the plurality of pointer values successively detected and corrected by the pointer value detecting unit, by relative values with respect to a pointer value of a reference channel to be a reference among the plurality of channels in the case where said plurality of pointer values are indicated at the same time corresponding to the said plurality of channels ([0080], lines 6-7).

For **claim 11**, Zelig et al. and Kibe teach everything claimed as applied above (see claim 8). In addition, Zelig et al. teach the transmission state indicating apparatus according to claim 8, wherein, when the predetermined transmission system is an SDH ([0022], last line) (Synchronous Digital Hierarchy) system, the plurality of pointer values include, as factors of the respective channels (26-24 -Fig. 1, and [0080], lines 1-7) to be objects for the delay absorption processings, values of AU (Administrative Unit) pointers included in H1 bytes and H2 bytes ([0070], line 9) which have been defined to show head portions of the virtual containers in case where the low capacity containers are

contained in a payload, at the 4th row of an SOH (Section Overhead) (TOH/POH, [0070], lines 10-11) frame in which the plurality of frames are frames of an STM (Synchronous transfer mode) ([0011], 3rd line from the end) and are added to payloads of the frames of the STM.

For **claim 12**, Zelig et al. and Kibe teach everything claimed as applied above (see claim 8). In addition, Zelig et al. teach the transmission state indicating apparatus according to claim 8, wherein, when the predetermined transmission system is an SDH (Synchronous Digital Hierarchy) system, the plurality of pointer values include, as factors of the respective channels (26-24 -Fig. 1, and [0080], lines 1-7) to be objects for the delay absorption processings, a value of H4 byte which has been defined at the 6.sup.th row of a POH (Pass Overhead) added to head portions of the respective virtual containers in case where the plurality of frames are frames of an STM (Synchronous transfer mode) and the virtual containers included in the frames of the STM system are a VC-3 format or a VC-4 format ([0072], line 12 & lines 6-13).

For **claim 13**, Zelig et al. and Kibe teach everything claimed as applied above (see claim 8). In addition, Zelig et al. teach the transmission state indicating apparatus according to claim 8, wherein, when the predetermined transmission system is an SDH ([0022], last line) (Synchronous Digital Hierarchy) system, the plurality of pointer values include, as factors of the respective channels (26-24 -Fig. 1, and [0080], lines 1-7) to be objects for the delay absorption processings, values of AU (Administrative Unit) pointers included in H1 bytes and H2 bytes ([0070], line 9) which have been defined to show head portions of the virtual containers in case where the low capacity containers are

contained in a payload, at the 4.sup.th row of an SOH (Section Overhead) (TOH/POH, [0070], lines 10-11) frame in which the plurality of frames are frames of an STM (Synchronous transfer mode) ([0011], 3rd line from the end) and are added to payloads of the frames of the STM, and a value of H4 byte which has been defined at the 6.sup.th row of a POH (Pass Overhead) added to the head portions of the respective virtual containers when the plurality of frames are frames of the STM (Synchronous transfer mode) and the virtual containers included in the frames of the STM are a VC-3 format or a VC-4 format ([0072], line 12 & lines 6-13).

For **claim 14**, Zelig et al. and Kibe teach everything claimed as applied above (see claim 8). In addition, Zelig et al. teach the transmission state indicating apparatus according to claim 8, further comprising:

a frame converting unit (encapsulater from encapsulating, [0029], line 1) which converts the multiplexed frame acquired by the multiplexed frame acquiring unit into a concatenation mapping frame (26, 24, 28 –Fig. 1) according to the rules of concatenation mapping ([0011], line 1, and [0027], lines 1-end); and

an index value detecting unit ([0013], 3rd line from the end. It implies that there is an index value detecting unit) which detects a plurality of index values included in the concatenation mapping frame converted according to rules of the concatenation mapping by the frame converting unit ([0013], last 4 lines, and [0018], first 3 & last 3 lines).

For claims 1-7, they are method claims of claims 8-14, therefore they are rejected for the same reason above.

For **claim 15**, Zelig et al. substantially teach a transmission state indicating apparatus for a predetermined transmission system (SONET, [0025], line 3), high capacity data is divided into a plurality of low capacity virtual containers ([0027], last 3 lines, and [0025]. For VT, see [0005], line 6. VT is the virtual container as claimed) and transmitted via a plurality of channels (26-24 –Fig. 1, and circuit, [0050], line 1 & lines 1-end) which configure a communication network based on clocks ([0069], line 6 & lines 4-6) at the respective channels, the apparatus comprising:

a plurality of clock reproducing units ([0069], lines 6-9. It implies that all 26 in Fig. 1 have clock reproducing units) which acquires a multiplexed frame in which mapping, accompanying delay absorption processings ([0069], line 3) corresponding to transmission states at the respective channels (26-24 -Fig. 1, and [0080], lines 1-7), has been carried out based on a reference clock ([0034], line 8) with respect to the virtual containers at the respective channels included in a plurality of frames including said plurality of low capacity virtual containers ([0050] and [0069]);

a plurality of frame receiving units (several 26 –Fig. 1) which receive the plurality of frames including the plurality of low capacity virtual containers in which the high capacity data is divided into the plurality of low capacity virtual containers ([0027], last 3 lines, and [0025]. For VT, see [0005], line 6. VT is the virtual container as claimed) and transmitted via the plurality of channels (26-24 –Fig. 1, and circuit, [0050], line 1 & lines 1-end) which configure the communication network, corresponding to the plurality of the respective channels, and detect the virtual containers at the respective channels (26-24

-Fig. 1, and [0080], lines 1-7) based on the clocks of the respective channels reproduced by the plurality of clock reproducing units;

a reference clock generating unit ([0034], line 8) which generates a reference clock;

a frame assembling unit (24-Fig. 1) which carries out mapping with respect to the virtual containers at the respective channels (26-24 -Fig. 1, and [0080], lines 1-7) included in the plurality of the frames received corresponding to the plurality of channels by the plurality of frame receiving units, based on the reference clock ([0034], line 8) from the reference clock generating unit, accompanying delay absorption processings ([0069], line 3) corresponding to the transmission states of the respective channels, so as to produce a multiplexed frame;

a pointer value detecting unit (adjust ... pointers, [0080], line 6. It implies that there is a pointer value detecting unit) which successively detects factors at the respective channels (26-24 -Fig. 1, and [0080], lines 1-7) which are respectively included in the plurality of frames included in the multiplexed frame on which mapping has been carried out by the frame assembling unit, and which are to be objects for delay absorption processings corresponding to the transmission states at the respective channels, as a plurality of pointer values for respectively evaluating transmission states at the plurality of channels which configure the communication network, and successively corrects the plurality of pointer values based on variations in phases ([0080], line 11 & lines 7-15) at the respective channels to be detected from phase differences between the clocks at the respective channels reproduced by the plurality of

clock reproducing units and the reference clock generated by the reference clock generating unit ([0080]);

an information storage unit (the "adjust the VT sections pointers" in [0080], line 6, implies that there is a storage unit for the pointers) which stores the plurality of pointer values successively detected and corrected by the pointer value detecting unit in association with information for indicating the plurality of pointer values in accordance with the plurality of channels; and

a display unit (CEM header, [0079], line 10) which indicates, at the same time, the plurality of pointer values for respectively evaluating the transmission states of the plurality of channels which configure the communication network, corresponding to the plurality of channels, based on the plurality of pointer values and the information for indicating the plurality of pointer values corresponding to the plurality of channels which have been stored in association with one another in the information storage unit ([0079], lines 9-11).

However, Zelig et al. fail to specifically teach more accurately a pointer value detecting unit, a display unit, and a storage unit.

Kibe teaches a pointer value detecting unit (21-Fig. 1), a display unit (26-Fig. 1), and a storage unit (34-Fig. 2, and [0051]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Zelig et al. with Kibe to obtain the invention as specified, for the adjustment of channel pointer value due to phase shifting between information to be multiplexed and frame to be inserted, with a storage function.

For **claim 16**, Zelig et al. and Kibe teach everything claimed as applied above (see claim 15). In addition, Zelig et al. teach the transmission state indicating apparatus according to claim 15, further comprising: a control unit (the "adjust the VT sections pointers" in [0080], line 6, implies that there is a control unit for the pointers) which carries out processing for indicating the plurality of pointer values by relative values with respect to a pointer value of a reference channel to be a reference among the plurality of channels on the display unit ([0080], lines 6-7).

However, Zelig et al. fail to specifically teach more accurately a pointer control unit.

Kibe teaches a pointer pointer control unit (30-Fig. 1).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Zelig et al. with Kibe to obtain the invention as specified, for the adjustment of channel pointer value due to phase shifting between information to be multiplexed and frame to be inserted.

For **claim 17**, Zelig et al. and Kibe teach everything claimed as applied above (see claim 15). In addition, Zelig et al. teach the transmission state indicating apparatus according to claim 15, wherein, when the predetermined transmission system is an SDH ([0022], last line) (Synchronous Digital Hierarchy) system, the plurality of pointer values include, as factors of the respective channels (26-24 -Fig. 1, and [0080], lines 1-7) to be objects for the delay absorption processings, values of AU (Administrative Unit) pointers included in H1 bytes and H2 bytes ([0070], line 9) which have been defined to show head portions of the virtual containers in case where the low capacity containers are

contained in a payload, at the 4th row of an SOH (Section Overhead) (TOH/POH, [0070], lines 10-11) frame in which the plurality of frames are frames of an STM (Synchronous transfer mode) ([0011], 3rd line from the end) and are added to the payloads of the frames of the STM.

For **claim 18**, Zelig et al. and Kibe teach everything claimed as applied above (see claim 15). In addition, Zelig et al. teach the transmission state indicating apparatus according to claim 15, wherein, when the predetermined transmission system is an SDH (Synchronous Digital Hierarchy) system, the plurality of pointer values include, as factors of the respective channels (26-24 -Fig. 1, and [0080], lines 1-7) to be objects for the delay absorption processings, a value of H4 byte which has been defined at the 6.sup.th row of a POH (Pass Overhead) added to head portions of the respective virtual containers in case where the plurality of frames are frames of an STM (Synchronous transfer mode) and the virtual containers included in the frames of the STM are a VC-3 format or a VC-4 format ([0072], line 12 & lines 6-13).

For **claim 19**, Zelig et al. and Kibe teach everything claimed as applied above (see claim 15). In addition, Zelig et al. teach the transmission state indicating apparatus according to claim 15, wherein, when the predetermined transmission system is an SDH ([0022], last line) (Synchronous Digital Hierarchy) system, the plurality of pointer values include, as factors of the respective channels (26-24 -Fig. 1, and [0080], lines 1-7) to be objects for the delay absorption processings, values of AU (Administrative Unit) pointers included in H1 bytes and H2 bytes ([0070], line 9) which have been defined to show head portions of the virtual containers in case where the low capacity containers are

contained in a payload, at the 4.sup.th row of an SOH (Section Overhead) (TOH/POH, [0070], lines 10-11) frame in which the plurality of frames are frames of an STM (Synchronous transfer mode) ([0011], 3rd line from the end) and are added to payloads of the frames of the STM, and a value of H4 byte which has been defined at the 6.sup.th row of a POH (Pass Overhead) added to the head portions of the respective virtual containers in case where said plurality of frames are frames of the STM (Synchronous transfer mode) and the virtual containers included in the frames of the STM are a VC-3 format or a VC-4 format ([0072], line 12 & lines 6-13).

For **claim 20**, Zelig et al. and Kibe teach everything claimed as applied above (see claim 15). In addition, Zelig et al. teach the transmission state indicating apparatus according to claim 15, further comprising:

a frame converting unit (encapsulater from encapsulating, [0029], line 1) which converts the multiplexed frame on which mapping has been carried out by the frame assembling unit into a concatenation mapping frame (26, 24, 28 –Fig. 1) according to the rules of concatenation mapping ([0011], line 1, and [0027], lines 1-end); and

an index value detecting unit ([0013], 3rd lien from the end. It implies that there is an index value detecting unit) which detects a plurality of index values included in the concatenation mapping frame converted according to rules of the concatenation mapping by the frame converting unit ([003], last 4 lines, and [0018], first 3 & last 3 lines).

Response to Amendment

3. Applicant's amendment filed January 10, 2008 has been received and considered.

Response to Arguments

4. Oath is correct, and priority information is corrected in the Office Action Summary.

5. Applicant's arguments filed January 10, 2008 have been fully considered but they are not persuasive.

Applicant argues that the present invention is directed to a technique in which when large-capacity data are transmitted by the system called virtual concatenation, the pointer values which indicate the transmission state of each channel, that is, transmission delay, variation in phase due to the difference in clock between a plurality of small-capacity channels and large-capacity channel, are associated with the respective channels, when they are visually checked. By contrast, according to Zelig et al, data of a low group is multiplexed and the multiplexed data is transmitted via the network. Thus, the technique of Zelig et al is reversed as compared to the technique of the present invention as recited in independent claims 1, 8 and 15. According to Zelig et al, the channel pointers of the transmitter side are sent directly to the receiver side and the original SDH signal is assembled. Therefore, that Zelig et al differs from the present invention as recited in independent claims 1, 8 and 15.

In response, the Examiner respectfully disagrees.

Zelig et al teach when the VTs inside the SPE at CE2 come from multiple sources, it may be necessary for CE2 to generate the STS-1 signal based on PRS

timing provided by PRS 48, i.e., with fixed pointers assuming the timing of the OC-N signal is also based on the PRS. In this case it is required to adjust the VT sections pointers individually. When the CES receiver gets VT1.5 payloads from multiple CES transmitters for inclusion in the same STS-1 output signal, the output SPE timing cannot simply be adjusted for the input SPE pointer movement as indicated in the received packet, since there may be phase differences between the different input sources. To deal with this case, CE2 preferably generates its own STS-1 output timing and performs pointer adjustments on the individual VT1.5 payloads (refer to [0080], lines 1-15, and Figs. 1 & 2). It is clearly stated in this paragraph that large-capacity data is divided into small capacity channels (VT sections, refer to [0080], line 6). It is not reversed.

As to the argument that according to Zelig et al channel pointers of the transmitter side are sent directly to the receiver side, the phase differences between the different input sources can only be detected and adjusted after they are received. Claims 1, 8, and 15 do not have the language of functional details regarding when and where the variation in phase is checked.

6. Rejection of dependant claims remains effective. See details above.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WANDA Z. RUSSELL whose telephone number is (571)270-1796. The examiner can normally be reached on Monday-Thursday 9:00-6:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Seema S. Rao/
Supervisory Patent Examiner,
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WZR